

2357  
2509

OIRF

CRF Errors Corrected by the STIC Systems Branch

CRF Processing Date 10/4/2001  
Edited by [Signature]  
Verified by [Signature] (STIC stat)

Serial Number: 09/917,963

**ENTERED**

- ☐ Changed a file from non-ASCII to ASCII
- ☐ Changed the margins in cases where the sequence text was "wrapped" down to the next line.
- ☐ Edited a format error in the Current Application Data section, specifically: \_\_\_\_\_
- ☐ Edited the Current Application Data section with the actual current number. The number inputted by the applicant was ☐ the prior application data; or ☐ other \_\_\_\_\_
- ☐ Added the mandatory heading and subheadings for "Current Application Data".
- ☐ Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer
- ☐ Changed the spelling of a mandatory field (the headings or subheadings), specifically: \_\_\_\_\_
- ☐ Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were: \_\_\_\_\_
- ☐ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited: \_\_\_\_\_
- ☐ Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.
- ☐ Inserted colons after headings/subheadings. Headings edited included: \_\_\_\_\_
- ☐ Deleted extra, invalid, headings-used by an applicant, specifically: \_\_\_\_\_
- ☒ Deleted: ☒ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filenam at end of file; ☐ page numbers throughout text; ☐ other invalid text, such as \_\_\_\_\_
- ☐ Inserted mandatory headings, specifically: \_\_\_\_\_
- ☐ Corrected an obvious error in the response, specifically: \_\_\_\_\_
- ☐ Edited identifiers where upper case is used but lower case is required, or vice versa.
- ☐ Corrected an error in the Number of Sequences field, specifically: \_\_\_\_\_
- ☐ A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.
- ☐ Deleted ending stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: \_\_\_\_\_
- ☐ Other: \_\_\_\_\_

Examiner: [Signature] The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form. 2/1/95

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/917,963

DATE: 10/04/2001

TIME: 18:18:19

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF3\10042001\I917963.raw

6 <110> APPLICANT: Rosanne M. Crooke  
7 Mark J. Graham  
10 <120> TITLE OF INVENTION: ANTISENSE MODULATION OF MICROSOMAL TRIGLYCERIDE TRANSFER  
PROTEIN  
11 EXPRESSION  
13 <130> FILE REFERENCE: ISPH-0591  
C--> 15 <140> CURRENT APPLICATION NUMBER: US/09/917,963  
C--> 15 <141> CURRENT FILING DATE: 2001-07-30  
15 <160> NUMBER OF SEQ ID NOS: 137  
17 <210> SEQ ID NO: 1  
18 <211> LENGTH: 20  
19 <212> TYPE: DNA  
20 <213> ORGANISM: Artificial Sequence  
22 <220> FEATURE:  
23 <223> OTHER INFORMATION: Antisense Oligonucleotide  
25 <400> SEQUENCE: 1  
26 tccgtcatcg ctccctcaggg 20  
28 <210> SEQ ID NO: 2  
29 <211> LENGTH: 20  
30 <212> TYPE: DNA  
31 <213> ORGANISM: Artificial Sequence  
33 <220> FEATURE:  
34 <223> OTHER INFORMATION: Antisense Oligonucleotide  
36 <400> SEQUENCE: 2  
37 atgcattctg cccccaagga 20  
39 <210> SEQ ID NO: 3  
40 <211> LENGTH: 3392  
41 <212> TYPE: DNA  
42 <213> ORGANISM: Homo sapiens  
44 <220> FEATURE:  
45 <221> NAME/KEY: CDS  
46 <222> LOCATION: (87)...(2771)  
48 <400> SEQUENCE: 3  
49 actccctcac tggctgccat tgaaagagtc cacttctcag tgactcctag ctgggcactg 60  
50 gatgcagttg aggattgctg gtcaat atg att ctt ctt gct gtg ctt ttt ctc 113  
51 Met Ile Leu Leu Ala Val Leu Phe Leu  
52 1 5  
54 tgc ttc att tcc tca tat tca gct tct gtt aaa ggt cac aca act ggt 161  
55 Cys Phe Ile Ser Ser Tyr Ser Ala Ser Val Lys Gly His Thr Thr Gly  
56 10 15 20 25  
58 ctc tca tta aat aat gac cgg ctg tac aag ctc acg tac tcc act gaa 209  
59 Leu Ser Leu Asn Asn Asp Arg Leu Tyr Lys Leu Thr Tyr Ser Thr Glu  
60 30 35 40  
62 gtt ctt ctt gat cgg ggc aaa gga aaa ctg caa gac agc gtg ggc tac 257  
63 Val Leu Leu Asp Arg Gly Lys Gly Lys Leu Gln Asp Ser Val Gly Tyr  
64 45 50 55  
66 ctt tcc tcc aac gtg gat gtg gcc tta cta taa aag aat cct gat 305

RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/09/917,963

DATE: 10/04/2001  
 TIME: 18:18:19

Input Set : A:\PTO.AMC.txt  
 Output Set: N:\CRF3\10042001\I917963.raw

68	60	65	70	
70	ggt gat gat gac cag ttg atc caa ata acg atg aag gat gta aat gtt	353		
71	Gly Asp Asp Asp Gln Leu Ile Gln Ile Thr Met Lys Asp Val Asn Val			
72	75 80 85			
74	gaa aat gtg aat cag cag aga gga gag aag agc atc ttc aaa gga aaa	401		
75	Glu Asn Val Asn Gln Gln Arg Gly Glu Lys Ser Ile Phe Lys Gly Lys			
76	90 95 100 105			
78	agc cca tct aaa ata atg gga aag gaa aac ttg gaa gct ctg caa aga	449		
79	Ser Pro Ser Lys Ile Met Gly Lys Glu Asn Leu Glu Ala Leu Gln Arg			
80	110 115 120			
82	cct acg ctc ctt cat cta atc cat gga aag gtc aaa gag ttc tac tca	497		
83	Pro Thr Leu Leu His Leu Ile His Gly Lys Val Lys Glu Phe Tyr Ser			
84	125 130 135			
86	tat caa aat gag gca gtg gcc ata gaa aat atc aag aga ggt ctg gct	545		
87	Tyr Gln Asn Glu Ala Val Ala Ile Glu Asn Ile Lys Arg Gly Leu Ala			
88	140 145 150			
90	agc cta ttt cag aca cag tta agc tct gga acc acc aat gag gta gal	593		
91	Ser Leu Phe Gln Thr Gln Leu Ser Ser Gly Thr Thr Asn Glu Val Asp			
92	155 160 165			
94	atc tct gga aat tgt aaa gtg acc tac cag gct cat caa gac aaa gtg	641		
95	Ile Ser Gly Asn Cys Lys Val Thr Tyr Gln Ala His Gln Asp Lys Val			
96	170 175 180 185			
98	atc aaa att aag gcc ttg gat tca tgc aaa ata gcg agg tct gga ttt	689		
99	Ile Lys Ile Lys Ala Leu Asp Ser Cys Lys Ile Ala Arg Ser Gly Phe			
100	190 195 200			
102	acg acc cca aat cag gtc ttg ggt gtc agt tca aaa gct aca tct gtc	737		
103	Thr Thr Pro Asn Gln Val Leu Gly Val Ser Ser Lys Ala Thr Ser Val			
104	205 210 215			
106	acc acc tat aag ata gaa gac agc ttt gtt ata gct gtg ctt gct gaa	785		
107	Thr Thr Tyr Lys Ile Glu Asp Ser Phe Val Ile Ala Val Leu Ala Glu			
108	220 225 230			
110	gaa aca cac aat ttt gga ctg aat ttc cta caa acc att aag ggg aaa	833		
111	Glu Thr His Asn Phe Gly Leu Asn Phe Leu Gln Thr Ile Lys Gly Lys			
112	235 240 245			
114	ata gta tcg aag cag aaa tta gag ctg aag aca acc gaa gca ggc cca	881		
115	Ile Val Ser Lys Gln Lys Leu Glu Leu Lys Thr Thr Glu Ala Gly Pro			
116	250 255 260 265			
118	aga ttg atg tct gga aag cag gct gca gcc ata atc aaa gca gtt gat	929		
119	Arg Leu Met Ser Gly Lys Gln Ala Ala Ile Ile Lys Ala Val Asp			
120	270 275 280			
122	tca aag tac acg gcc att ccc att gtg ggg cag gtc ttc cag agc cac	977		
123	Ser Lys Tyr Thr Ala Ile Pro Ile Val Gly Gln Val Phe Gln Ser His			
124	285 290 295			
126	tgt aaa gga tgt cct tct ctc tcg gag ctc tgg cgg tcc acc agg aaa	1025		
127	Cys Lys Gly Cys Pro Ser Leu Ser Glu Leu Trp Arg Ser Thr Arg Lys			
128	300 305 310			
130	tac ctg cag cct gac aac ctt tcc aag gct gag gct gtc aga aac ttc	1073		
131	Tyr Leu Gln Pro Asp Asn Leu Ser Lys Ala Glu Ala Val Arg Asn Phe			
132	315 320 325			

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Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF3\10042001\I917963.raw

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134 ctg gcc ttc att cag cac ctc agg act gcg aag aaa gaa gag atc ctt 1121
135 Leu Ala Phe Ile Gln His Leu Arg Thr Ala Lys Lys Glu Glu Ile Leu
136 330 335 340 345
138 caa ata cta aag atg gaa aat aag gaa gta tta cct cag ctg gtg gat 1169
139 Gln Ile Leu Lys Met Glu Asn Lys Glu Val Leu Pro Gln Leu Val Asp
140 350 355 360
142 gct gtc acc tct gct cag acc tca gac tca tta gaa gcc att ttg gac 1217
143 Ala Val Thr Ser Ala Gln Thr Ser Asp Ser Leu Glu Ala Ile Leu Asp
144 365 370 375
146 ttt ttg gat ttc aaa agt gac agc att atc ctc cag gag agg ttt 1265
147 Phe Leu Asp Phe Lys Ser Asp Ser Ser Ile Ile Leu Gln Glu Arg Phe
148 380 385 390
150 ctc tat gcc tgt gga ttt gct tct cat ccc aat gaa gaa ctc ctg aga 1313
151 Leu Tyr Ala Cys Gly Phe Ala Ser His Pro Asn Glu Glu Leu Leu Arg
152 395 400 405
154 gcc ctc att agt aag ttc aaa ggt tct att ggt agc agt gac atc aga 1361
155 Ala Leu Ile Ser Lys Phe Lys Gly Ser Ile Gly Ser Ser Asp Ile Arg
156 410 415 420 425
158 gaa act gtt atg atc atc act ggg aca ctt gtc aga aag ttg tgt cag 1409
159 Glu Thr Val Met Ile Ile Thr Gly Thr Leu Val Arg Lys Leu Cys Gln
160 430 435 440
162 aat gaa ggc tgc aaa ctc aaa gca gta gtg gaa gct aag aag tta atc 1457
163 Asn Glu Gly Cys Lys Leu Lys Ala Val Val Glu Ala Lys Lys Leu Ile
164 445 450 455
166 ctg gga gga ctt gaa aaa gca gag aaa aaa gag gac acc agg atg tat 1505
167 Leu Gly Gly Leu Glu Lys Ala Glu Lys Lys Glu Asp Thr Arg Met Tyr
168 460 465 470
170 ctg ctg gct ttg aag aat gcc ctg ctt cca gaa ggc atc cca agt ctt 1553
171 Leu Leu Ala Leu Lys Asn Ala Leu Leu Pro Glu Gly Ile Pro Ser Leu
172 475 480 485
174 ctg aag tat gca gaa gca gga gaa ggg ccc atc agc cac ctg gct acc 1601
175 Leu Lys Tyr Ala Glu Ala Gly Glu Gly Pro Ile Ser His Leu Ala Thr
176 490 495 500 505
178 act gct ctc cag aga tat gat ctc cct ttc ata act gat gag gtg aag 1649
179 Thr Ala Leu Gln Arg Tyr Asp Leu Pro Phe Ile Thr Asp Glu Val Lys
180 510 515 520
182 aag acc tta aac aga ata tac cac caa aac cgt aaa gtt cat gaa aag 1697
183 Lys Thr Leu Asn Arg Ile Tyr His Gln Asn Arg Lys Val His Glu Lys
184 525 530 535
186 act gtg cgc act gct gca gct gct atc att tta aat aac aat cca tcc 1745
187 Thr Val Arg Thr Ala Ala Ala Ile Ile Leu Asn Asn Asn Pro Ser
188 540 545 550
190 tac atg gac gtc aag aac atc ctg ctg tct att ggg gag ctt ccc caa 1793
191 Tyr Met Asp Val Lys Asn Ile Leu Leu Ser Ile Gly Glu Leu Pro Gln
192 555 560 565
194 gaa atg aat aaa tac atg ctc gcc att gtt caa gac atc cta cgt ttg 1841
195 Glu Met Asn Lys Tyr Met Leu Ala Ile Val Gln Asp Ile Leu Arg Leu
196 570 575 580 585
198 gaa atg cct gca acc aaa att gtc cgt cga gtt ctg aag gaa atg gtc 1889

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DATE: 10/04/2001

TIME: 18:18:19

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF3\10042001\I917963.raw

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199 Glu Met Pro Ala Ser Lys Ile Val Arg Arg Val Leu Lys Glu Met Val
200                               590                               595                               600
202 gct cac aat tat gac cgt ttc tcc agg agt gga tct tct tct gcc tac 1937
203 Ala His Asn Tyr Asp Arg Phe Ser Arg Ser Gly Ser Ser Ala Tyr
204                               605                               610                               615
206 act ggc tac ata gaa cgt agt ccc cgt tcg gca tct act tac agc cta 1985
207 Thr Gly Tyr Ile Glu Arg Ser Pro Arg Ser Ala Ser Thr Tyr Ser Leu
208                               620                               625                               630
210 gac att ctc tac tcg ggt tct ggc att cta agg aga agt aac ctg aac 2033
211 Asp Ile Leu Tyr Ser Gly Ser Gly Ile Leu Arg Arg Ser Asn Leu Asn
212                               635                               640                               645
214 atc ttt cag tac att ggg aag gct ggt ctt cac ggt agc cag gtg gtt 2081
215 Ile Phe Gln Tyr Ile Gly Lys Ala Gly Leu His Gly Ser Gln Val Val
216 650                               655                               660                               665
218 att gaa gcc caa gga ctg gaa gcc tta atc gca gcc acc cct gac gag 2129
219 Ile Glu Ala Gln Gly Leu Glu Ala Leu Ile Ala Ala Thr Pro Asp Glu
220                               670                               675                               680
222 ggg gag gag aac ctt gac tcc tat gct ggt atg tca gcc atc ctc ttt 2177
223 Gly Glu Glu Asn Leu Asp Ser Tyr Ala Gly Met Ser Ala Ile Leu Phe
224                               685                               690                               695
226 gat gtt cag ctc aga cct gtc acc ttt ttc aac gga tac agt gat ttg 2225
227 Asp Val Gln Leu Arg Pro Val Thr Phe Phe Asn Gly Tyr Ser Asp Leu
228                               700                               705                               710
230 atg tcc aaa atg ctg tca gca tct ggc gac cct atc agt gtg gtg aaa 2273
231 Met Ser Lys Met Leu Ser Ala Ser Gly Asp Pro Ile Ser Val Val Lys
232                               715                               720                               725
234 gga ctt att ctg cta ata gat cat tct cag gaa ctt cag tta caa tct 2321
235 Gly Leu Ile Leu Leu Ile Asp His Ser Gln Glu Leu Gln Leu Gln Ser
236 730                               735                               740                               745
238 gga cta aaa gcc aat ata gag gtc cag ggt ggt cta gct att gat att 2369
239 Gly Leu Lys Ala Asn Ile Glu Val Gln Gly Gly Leu Ala Ile Asp Ile
240                               750                               755                               760
242 tca ggt gca atg gag ttt agc ttg tgg tat cgt gag tct aaa acc cga 2417
243 Ser Gly Ala Met Glu Phe Ser Leu Trp Tyr Arg Glu Ser Lys Thr Arg
244                               765                               770                               775
246 gtg aaa aat agg gtg act gtg gta ata acc act gac atc aca gtg gac 2465
247 Val Lys Asn Arg Val Thr Val Val Ile Thr Thr Asp Ile Thr Val Asp
248                               780                               785                               790
250 tcc tct ttt gtg aaa gct ggc ctg gaa acc agt aca gaa aca gaa gca 2513
251 Ser Ser Phe Val Lys Ala Gly Leu Glu Thr Ser Thr Glu Thr Glu Ala
252                               795                               800                               805
254 ggc ttg gag ttt atc tcc aca gtg cag ttt tct cag tac cca ttc tta 2561
255 Gly Leu Glu Phe Ile Ser Thr Val Gln Phe Ser Gln Tyr Pro Phe Leu
256 810                               815                               820                               825
258 gtt tgc atg cag atg gac aag gat gaa gct cca ttc agg caa ttt gag 2609
259 Val Cys Met Gln Met Asp Lys Asp Glu Ala Pro Phe Arg Gln Phe Glu
260                               830                               835                               840
262 aaa aag tac gaa agg ctg tcc aca ggc aga ggt tat gtc tct cag aaa 2657
263 Val Lys Tyr Gln Arg Leu Ser Thr Gly Arg Gly Tyr Val Ser Gln Lys

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RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/09/917,963

DATE: 10/04/2001  
 TIME: 18:18:19

Input Set : A:\PTO.AMC.txt  
 Output Set: N:\CRF3\10042001\I917963.raw

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264          845          850          855
266 aga aaa gaa agc gta tta gca gga tgt gaa ttc ccg ctc cat caa gag 2705
267 Arg Lys Glu Ser Val Leu Ala Gly Cys Glu Phe Pro Leu His Gln Glu
268          860          865          870
270 aac tca gag atg tgc aaa gtg gtg ttt gcc cct cag ccg gat agt act 2753
271 Asn Ser Glu Met Cys Lys Val Val Phe Ala Pro Gln Pro Asp Ser Thr
272          875          880          885
274 tcc agc gga tgg ttt tga aactgacctg tgatatttta cttgaatttg 2801
275 Ser Ser Gly Trp Phe
276 890
278 tctccccgaa agggacacaa tgtggcatga ctaagtactt gctctctgag agcacagcgt 2861
279 ttacatatattt acctgtattt aagatttttg taaaaagcta caaaaaactg cagtttgatc 2921
280 aaatttgggt atatgcagta tgctaccac agcgtcattt tgaatcatca tgtgacgctt 2981
281 tcaacaacgt tcttagttta cttataacctc tctcaaactc catttggtac agtcagaata 3041
282 gttattctct aagaggaaac tagtgtttgt taaaaacaaa aataaaaaa aaaccacaca 3101
283 aqqaqaaccc aattttgttt caacaatttt tgatcaatgt atatgaagct cttgatagga 3161
284 ctcccttaag catgacggga aaaccaaaaa cgttccctaa tcaggaaaaa aaaaaaaaa 3221
285 aaaaagtaag acacaaacaa accatttttt tctctttttt tggagttggg ggcccagggg 3281
286 gaagggacaa ggcttttaaa agacttgta gccaaacttca agaattaata tttatgtctc 3341
287 tgttattggt agttttaagc cttaggtag aaggcacata gaaataacat c 3392
289 <210> SEQ ID NO: 4
290 <211> LENGTH: 18
291 <212> TYPE: DNA
292 <213> ORGANISM: Artificial Sequence
294 <220> FEATURE:
295 <223> OTHER INFORMATION: PCR Primer
297 <400> SEQUENCE: 4
298 cgtgggctac cgcatttc 18
300 <210> SEQ ID NO: 5
301 <211> LENGTH: 22
302 <212> TYPE: DNA
303 <213> ORGANISM: Artificial Sequence
305 <220> FEATURE:
306 <223> OTHER INFORMATION: PCR Primer
308 <400> SEQUENCE: 5
309 tcatcatcac catcaggatt cc 22
311 <210> SEQ ID NO: 6
312 <211> LENGTH: 27
313 <212> TYPE: DNA
314 <213> ORGANISM: Artificial Sequence
316 <220> FEATURE:
317 <223> OTHER INFORMATION: PCR Probe
319 <400> SEQUENCE: 6
320 tccaacgtgg atgtggcctt actatgg 27
322 <210> SEQ ID NO: 7
323 <211> LENGTH: 19
324 <212> TYPE: DNA
325 <213> ORGANISM: Artificial Sequence
327 <220> FEATURE:

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VERIFICATION SUMMARY

PATENT APPLICATION: US/09/917,963

DATE: 10/04/2001

TIME: 18:18:20

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF3\10042001\I917963.raw

L:15 M:270 C: Current Application Number differs, Replaced Current Application No  
L:15 M:271 C: Current Filing Date differs, Replaced Current Filing Date

OIPE

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/917,963

DATE: 08/07/2001

TIME: 13:32:10

Input Set : A:\917963.txt

Output Set: N:\CRF3\08072001\I917963.raw

Does Not Comply  
Corrected Diskette Needed

6 <110> APPLICANT: Rosanne M. Crooke  
 7 Mark J. Graham  
 10 <120> TITLE OF INVENTION: ANTISENSE MODULATION OF MICROSOMAL TRIGLYCERIDE TRANSFER  
 PROTEIN  
 11 EXPRESSION  
 13 <130> FILE REFERENCE: ISPH-0591  
 C--> 15 <140> CURRENT APPLICATION NUMBER: US/09/917,963  
 C--> 15 <141> CURRENT FILING DATE: 2001-07-30  
 15 <160> NUMBER OF SEQ ID NOS: 137

## ERRORED SEQUENCES

1983 <210> SEQ ID NO: 137  
 1984 <211> LENGTH: 20  
 1985 <212> TYPE: DNA  
 1986 <213> ORGANISM: Artificial Sequence  
 1988 <220> FEATURE:  
 1989 <223> OTHER INFORMATION: Antisense Oligonucleotide  
 1991 <400> SEQUENCE: 137  
 1992 atcaactgaa gttctccact

20

E--> 1994 1  
 E--> 1997 35



VERIFICATION SUMMARY

PATENT APPLICATION: US/09/917,963

DATE: 08/07/2001  
TIME: 13:32:11

Input Set : A:\917963.txt

Output Set: N:\CRF3\08072001\I917963.raw

L:15 M:270 C: Current Application Number differs, Replaced Current Application No  
L:15 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:1994 M:254 E: No. of Bases conflict, LENGTH:Input:1 Counted:20 SEQ:137  
M:254 Repeated in SeqNo=137